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USSR: Early September Grain Forecast

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Environment and Resource Analysis Brief

USSR: Early September Grain Forecast

Summary

As of 8 September, we project total Soviet grain production at about 220 million tons, near last year's record of 224 million tons. Our current forecast is at the low end of our early August estimate of 220 million to 225 million tons.

Recent Soviet reports on surviving winter grain acreage and spring seeding have led us to lower the winter grain area and boost the area sown to spring grains. We continue to project a record output of winter grains—about 67 million tons. Because of persistent wet harvesting conditions in European USSR, the quality of some of the wheat remains suspect.

Compared with our August forecast, a deterioration in yields in spring grains has largely offset the increase in area. We are projecting the outturn of spring grains, including pulses, at 153 million tons. Our forecast of grain output may fall lower if harvesting conditions become adverse east of the Urals. As of early September, over 20 percent of the total grain crop, including corn, remained uncut.

Note: This paper was produced by the Office of Geographic and Cartographic Research and coordinated with the Office of Economic Research. Comments and questions may be directed to [REDACTED] Code 143, Extension 3748. Date of information 9 September 1977.

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Total Grain Production

Prospects remain excellent that the Soviet Union will harvest a second consecutive bumper grain crop. We currently project total grain output at 220 million tons, slightly below last year's record of 223.8 million tons, but well above the 1971-1975 average of 181.5 million tons. (See Table 1.) Our early August forecast put grain output at 220 million to 225 million tons. The revision in our estimate partly reflects adjustments in crop area.

Official Soviet statistics released in late August indicated that winterkill or abandonment of winter grain acreage—especially rye—was more serious than acknowledged in previous Soviet accounts. On the other hand, spring grain areas—primarily barley and oats—were larger than our earlier estimates. The net effect on total production will be small—about 1 percent.

Our estimate of total production agrees with the most recent estimate of the U.S. Department of Agriculture which puts grain production at 220 million tons; the USDA adds that there is a two out of three chance that output will fall between 210 million and 230 million tons. Other estimates of this year's Soviet crop vary widely. Unofficial Soviet estimates tout record production; recent estimates by private grain trade analysts are more pessimistic. In mid-July an analyst [REDACTED] pegged the harvest as low as 200 million tons.

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Table 1

USSR: Grain Production ¹

	Million Tons		
	Annual Average 1971-75	1976	Estimated 1977
Total	181.5	223.8	220.0
Winter grains ²	55.6	60.9	67.0
Wheat	41.6	44.6	55.0
Rye	11.5	14.0	9.5
Spring grains	125.8	162.5	153.0
Wheat	47.4	52.3	49.0
Barley	40.7	67.1	59.0
Oats	14.8	18.1	18.0
Corn	10.2	10.3	12.0
Pulses	7.3	8.6	7.5
Millet	2.5	3.2	4.0
Rice	1.8	2.0	2.2
Buckwheat	0.9	0.9	1.5

¹ Because of rounding, components may not add to totals shown.

² Includes winter barley.

USSR: Major Spring and Winter Grain Area

Map 1



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Spring and winter grains

Spring grains

Economic region boundary

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Winter Grains

On the basis of revised acreage data, we now project winter grain production at 67 million tons, down 5 million tons from our August forecast. Nevertheless, our new estimate remains well above the previous record of 63.5 million tons. Preliminary yield and procurement data from Moldavia and parts of the southern and western Ukraine continue to support the estimate of an unusually large winter grain harvest. (See [REDACTED] Map 1.)

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Spring Grains

We now project output of spring grains at 153 million tons. During August, spring grain prospects became considerably more uncertain. Excessive rainfall in northern European USSR caused significant localized flooding and almost certainly should have an adverse effect on grain quality.

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[REDACTED] Consequently, harvest progress in these areas is lagging and yields will drop slightly. Official reports on the pace of the harvest in the Baltics—Latvia, Lithuania, and Estonia—indicate that less than a third of the grain and pulse crops had been cut by late August. Threshing statistics have not been published.

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East of the Urals in northern Kazakhstan and West Siberia, crop conditions also are complicated. Together, these regions account for about 60 percent of the total spring wheat area. Abundant rainfall in August has promoted a large area of secondary tillering which may cause yields to vary widely throughout these important spring wheat regions.* (See Map 2.) Last year, extensive secondary tillering resulted in record production in Kazakhstan. This year, however, tiller development was approximately two weeks later, and full ripening could be hampered by the region's short growing season.

Since mid-August, the harvest in Kazakhstan has been significantly slower than in 1976. (See Table 2.) Although rains may account for some of the delay, the lag in cutting the grain probably indicates that

* Tillering refers to the development of new stems from lateral buds which may produce additional heads of grain. Yield from the additional heads can increase a plant's production as much as 20 to 60 percent.

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Table 2

KAZAKHSTAN: Harvest Progress

1976			1977		
Date	Area Cut (million hectares)	Percent Cut (cumulative)	Date	Area Cut (million hectares)	Percent Cut (cumulative)
August 2	2.0	8	August 1	2.8	11
August 9	3.7	15	August 8	3.7	15
August 16	5.0	20	August 15	5.0	20
August 23	12.5	49	August 22	7.6	30
August 30	15.1	60	August 29 ¹	10.4	41
September 6	20.2	80	September 5	13.5	54

Source: Soviet Central Statistical Administration.

¹ Estimated.

harvest operations have been postponed in areas with extensive tillering. (See Images A and B.) The risk in this tactic is the possibility of early, severe frost or snow. (See Table 3.) If killing frosts occur prior to mid-September, the contribution of secondary tillering to final production will be minimal. Harvesting losses could increase because grain heads on the main stalk would be overripe. And, grain quality would deteriorate with the mixture of immature grain from the tillers.

Outlook

The harvest pace continues to run ahead of normal, with about four-fifths of the 1977 grain crop now cut and threshing delays near average. By 5 September, according to the Soviet Central Statistical Administration, about 37 million hectares of grain and pulse crops, excluding corn, remain to be threshed. Final production will be greatly dependent on prevailing harvest conditions through early October. If current "wet harvest" problems persist in the Baltics and northern Kazakhstan an additional downward adjustment could be made to projected total output.

Table 3

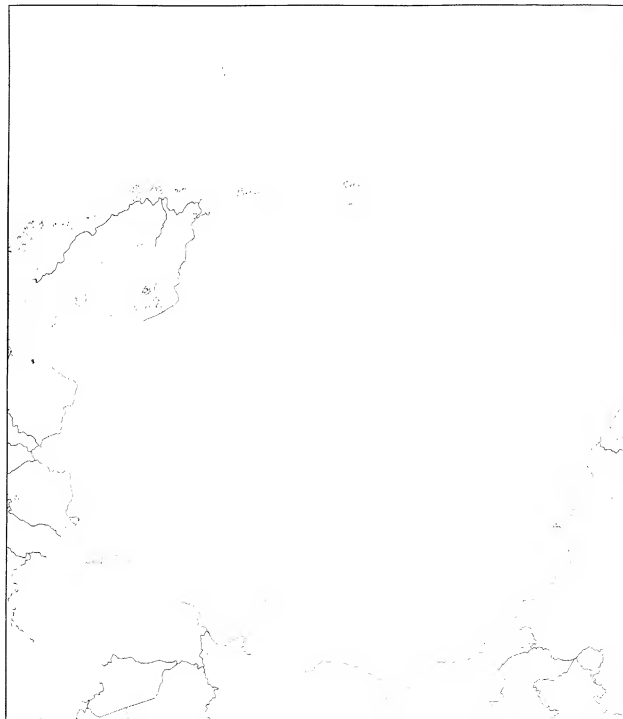
USSR: Average and Extreme Dates of First Frost for Areas with Relatively Short Growing Seasons

Region	Dates of First Frost ¹	
	Average dates	Extreme dates
Volga-Urals	25 Sept-1 Oct	1-10 Sept
Northern Kazakhstan	20-25 Sept	25-30 Aug
West Siberia	15-20 Sept	25 Aug-5 Sept
East Siberia	10-15 Sept	20-30 Aug

¹Range of dates for several weather stations in each region.

Imagery-Derived Area of Significant Late-Season Tillering

Map 2



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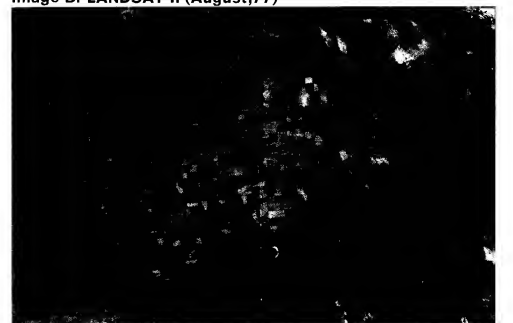
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Image A: LANDSAT II Imagery Northern Kazakhstan and West Siberian Border (July,77)



Vivid red IR return inside area (A) of Image A depicts good crop vigor from recent shower activity. Darker area (B) outside the dotted line indicates plant stress as well as lower crop prospects.

Image B: LANDSAT II (August,77)



LANDSAT imagery one month later reveals that most of the crops inside area (A) have now turned (ripened) and been harvested. However, subsequent to the July imagery widespread rainfall substantially improved crop prospects in area (B) promoting secondary tillering. Farmers in area (B) are now gambling that a delayed harvest with potentially higher yields can be completed before winter conditions set in.

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